

REVISION OF THE DISTRIBUTION OF THE RED-LORED WHISTLER IN SOUTH AUSTRALIA

JAMIE MATTHEW, GRAHAM CARPENTER and TIM CROFT

SUMMARY

In this article we present further details concerning the recently discovered population of Red-lored Whistlers on Eyre Peninsula, South Australia. We compare their habitat with that utilised by the species in the Murray Mallee and discuss the possible origins of the Eyre Peninsula birds. We have also summarised records of the species in South Australia since 1983.

INTRODUCTION

Most records of the Red-lored Whistler *Pachycephala rufogularis* are from mallee in the Ninety-Mile and Big Desert system (Hatch 1977; Close 1982) and the Sunset Country of South Australia and Victoria (Carpenter and Matthew 1986; Woinarski 1987). There are observations from west and north of the Murray River in South Australia (Rix 1940; Eckert 1972; Pedler 1982) and from the Pulletop–Round Hill reserves in central-western New South Wales (Schodde 1965; Blakers *et al.* 1984). Sporadic observations of the species have been made in atypical habitat as far west as Adelaide, suggesting that individuals will disperse long distances (Eckert 1972; Glover 1976; Parker 1984). Recently, Red-lored Whistlers were observed on northern Eyre Peninsula, over 350 km NW of the species' usual range (Matthew *et al.* 1995). This record was from habitat floristically similar to that used by the species in the Murray Mallee.

As the Red-lored Whistler has specific habitat requirements (Woinarski 1987), it has probably declined in abundance as a result of vegetation clearance. For example, there have been no records from the vicinity of Ferries-McDonald Conservation Park, SW of Murray Bridge, since those of Rix (1940). However these birds inhabit dunal mallee, much of which remains in reserves across South Australia and Victoria.

In this article we present further data on the Eyre Peninsula population and recent (post-1983) records from the Murray Mallee of South Australia. In an attempt to define the status and distribution of the Red-lored Whistler on Eyre Peninsula, several sites were surveyed between April 1993 and May 1995 with the aid of taped calls recorded in the Murray Mallee.

RECENT RECORDS IN SOUTH AUSTRALIA

The authors and others have observed Red-lored Whistlers at a number of localities in South Australia since the early 1980s. In Table 1 we list 24 records (totalling 43 birds), 19 of which have habitat data provided. The records are shown geographically in Figure 1. Estimates of vegetative cover were made at sites in Billiatt Conservation Park, 40 km N of Lameroo (35°59'S, 140°28'E) and Pinkawillinie Conservation Park, 26 km NE of Kyancutta (32°59'S, 135°44'E).

A total of 30 birds was recorded from mallee on scattered, parabolic dunes comprising siliceous sands. The vegetation consisted of open mallee *Eucalyptus incrassata*–*E. leptophylla* (2–5 m height, 10–20% cover) over a moderately dense understorey (1–2 m height, 30–40% cover) comprising a diverse assemblage of species including sandhill tea-tree *Leptospermum coriaceum*, porcupine grass *Triodia scariosa*, broombush *Melaleuca uncinata*, silver broom *Baeckea behrii*, mallee cypress pine *Callitris verrucosa*, silvery phebalium *Phebalium bullatum*, slaty oak-bush *Allocasuarina muelleriana*, velvet spyridium *Spyridium subochreatum* (*S. bifidum* on Eyre Peninsula) and heart-leaf beard-heath *Leucopogon cordifolius*. A total of six birds was recorded from swales comprising sands over a loam or clay subsoil. The composition of the vegetation varied considerably but the percentage cover was similar to that in dunal mallee. There was one bird seen in tall mallee woodland outside of the normal range of the Red-lored Whistler. There were no habitat details available for five of the records listed in Table 1.

In habitat recovering from recent fire, plants such as broom ballart *Exocarpos sparteus* and *Dampiera* spp. were prevalent in the understorey. Red-lored Whistlers were observed in recently burnt habitat, but over 60% of the records were from vegetation burnt 20–40 years previously. The whistlers took a range of insects from the ground or from stems and foliage of ridge-fruit mallee *Eucalyptus incrassata*, narrow-leaf mallee *E. leptophylla* and *Melaleuca uncinata*. A bird was seen gleaning insects from *Exocarpos* and from the

Table 1. Records of Red-lored Whistlers made by the authors and others since 1983.

Record	Date	Locality and Details
1.	31/08/83	Billiatt Conservation Park, 40 km N of Lameroo. Six adults in an area of 500 ha of parabolic dunes. See Carpenter and Matthew (1986) for habitat details. Last burnt 22 years previously.
2.	7/12/83	Two adults in same area as above.
3.	2/3/84	One immature in same area as above. Last burnt 23 years previously.
4.	9/2/86	One adult in same habitat as record 1. Last burnt 25 years previously.
5.	3/4/93	Two immatures in same area as record 1. Mallee <i>Eucalyptus incrassata</i> - <i>E. leptophylla</i> (to 2 m) over <i>Leptospermum coriaceum</i> , <i>Triodia scariosa</i> , <i>Exocarpos sparteus</i> , showy firebush <i>Aotus subspinescens</i> and velvet dampiera <i>Dampiera marifolia</i> . Last burnt 5 years previously.
6.	2/10/93	Two immatures in same area as record 1. Last burnt 5 years previously.
7.	21/8/94	One immature in same area as record 1. Swale with open mallee <i>E. calycogona</i> - <i>E. dumosa</i> (to 3 m) over <i>Melaleuca uncinata</i> and <i>Triodia scariosa</i> . Last burnt 6 years previously.
8.	7-8/9/94	Billiatt Conservation Park, 50 km N of Lameroo. Four birds (one immature) in an area of 300 ha of parabolic dunes. Open mallee <i>E. calycogona</i> - <i>E. socialis</i> (to 3 m) over <i>Acacia</i> spp., <i>Triodia scariosa</i> , <i>Callitris verrucosa</i> , <i>Leptospermum coriaceum</i> and <i>Spyridium subochreatum</i> . Last burnt 23 years previously.
9.	28/9/94	Three adults in same area as record 8. Swale with open mallee <i>E. calycogona</i> - <i>E. socialis</i> over <i>Acacia</i> spp., <i>Triodia scariosa</i> , <i>Exocarpos sparteus</i> , <i>Leptospermum coriaceum</i> and <i>Spyridium subochreatum</i> . Last burnt 6 years previously.
10.	4/4/93	Billiatt Conservation Park, 35 km N of Lameroo. One immature in habitat similar to record 5. Last burnt 5 years previously.
11.	13/7/85	8 km SE of Mt Mary. One adult in sparse mallee <i>E. oleosa</i> over open pearl bluebush <i>Maireana sedifolia</i> , black bluebush <i>M. pyramidata</i> and sheep-bush <i>Geijera linearifolia</i> on clay-loam over calcrete.
12.	20/7/86	Carcuma Conservation Park, 25 km NE of Coonalpyn. One immature in open mallee <i>E. incrassata</i> (to 5 m) over <i>Leptospermum coriaceum</i> , <i>Melaleuca uncinata</i> and <i>Triodia scariosa</i> on parabolic dunes. Last burnt over 30 years previously.
13.	25/1/87	Mt Boothby Conservation Park, 18 km SSW of Coonalpyn. One immature and one adult on sandy flat with open mallee <i>E. incrassata</i> - <i>E. socialis</i> (to 4 m) over <i>Melaleuca uncinata</i> and scarlet bottlebrush <i>Callistemon rugulosus</i> . Last burnt over 30 years previously.
14.	10/89	15 km ENE of Murray Bridge. One heard from area of dunal mallee <i>E. incrassata</i> - <i>E. socialis</i> over <i>Melaleuca uncinata</i> , <i>Callitris verrucosa</i> , <i>Leptospermum coriaceum</i> and <i>Triodia scariosa</i> . Last burnt over 30 years previously (J. Cox).
15.	10/4/93	Calperum Station, 35 km NNE of Renmark. One adult in an area of parabolic dunes with open mallee <i>E. incrassata</i> - <i>E. dumosa</i> - <i>E. socialis</i> (to 3 m) over <i>Callitris verrucosa</i> , <i>Leptospermum coriaceum</i> and <i>Triodia scariosa</i> . Last burnt 7 years previously.
16.	9/02/93	Pinkawillinie Conservation Park, 26 km NE of Kyancutta. Three adults and one immature. See Matthew <i>et al.</i> (1995) for details. Last burnt 35 years previously.
17.	31/05/94	One adult photographed on same dune as in record 16. Last burnt 35 years previously.
18.	7/8/94	Two adults in same area as record 16.
19.	30-31/5/95	Pinkawillinie Conservation Park. One adult mist netted and another bird heard nearby. Last burnt 36 years previously.
20.	9/8/1985	One immature male 5.5 km SE of Sandleton. In coppiced regrowth mallee (J. Cox and R. Brown).
21.	7/1994	One nest collected (SA Museum B47638) 10 km ESE of Pertendi Hut (L. Pedler).
22.	8/5/1995	Two seen at Stockyard Plain, 15 km WSW of Waikerie (SAOA members).
23.	18/11/1995	One adult seen at Pooginook Conservation Park (J. Cox).
24.	24/12/1995	Two adults seen at Pooginook Conservation Park (J. Cox).

decorticating bark of square-fruited mallee *Eucalyptus calycogona* in an area burnt six years previously (record 9, Table 1). We did not see the Red-lored Whistler in recently burnt vegetation in Pinkawillinie Conservation Park.

EYRE PENINSULA RECORDS

Red-lored Whistlers were recorded at one locality on northern Eyre Peninsula on four occasions between February 1993 and March 1995 (Table 1). Between one and three birds were observed on these visits, all sightings being of adults except for

an immature seen on 9 February 1993. The whistlers were heard in the mid-morning and twice were first heard after playback of tape recordings. Except for the initial observations in 1993, the birds were shy and did not allow close approach. In June 1994, an adult was observed over a period of 30 minutes allowing one author (JM) to photograph it using a 200 mm telephoto lens.

The adult whistlers gave a call comprising three parts, described as 'whee yew wheea'. The first syllable was a rich ascending whistle, the second resembling an indrawn breath and the third a distinctive nasal call. In June 1994, an adult gave

calls similar to those recorded in the Murray Mallee, comprising the first two syllables of the call described above. When two adults were present, the birds would call and reply to each other.

At 0945 h on 31 May 1995, an adult was caught in a mist net after playing tape recordings in the vicinity. Attempts to capture birds on previous visits were not successful. A photograph of the bird caught in 1995 is shown in Figure 2. It had a rich colouration of the lores and belly, suggesting that it was an adult male. Our examination of museum specimens indicates that males and females can be difficult to separate by plumage colour. A complete description of the captured bird is given below:

A large whistler with grey upperparts tinged olive; crown grey with pale olive tinge; head and breast grey; lores, throat, lower breast, abdomen and undertail coverts cinnamon; vent off-white; primaries and secondaries brown with olive leading edge; undersurface of primaries and secondaries pale grey; tertials brown with grey

leading edge; primary and secondary coverts brown with olive leading edge; median and lesser coverts grey; lesser underwing coverts grey; tail grey-brown above and pale grey below; iris claret; bill black; mouth parts pink; legs and feet black. The following measurements were taken: Tarsus 30.4 mm, Exposed Culmen 13.6 mm, Wing Length 111 mm, Tail Length 85 mm, Weight 34 g. The primaries, secondaries and rectrices were new whereas the primary and secondary coverts were worn. Part of the skin on the abdomen was bare of feathers and partly vascularised.

The fact that we have recorded Red-lored Whistlers from only two adjacent dunes at a single locality on Eyre Peninsula suggests that the species has a very restricted distribution in the region. We have searched for Red-lored Whistlers at seven other sites on northern Eyre Peninsula with suitable habitat (Figure 1) but were not successful in locating any birds. Two of the authors (GC and TC) have visited over 50 localities in mallee vegetation, mostly on parallel dunes, without locating Red-lored Whistlers.

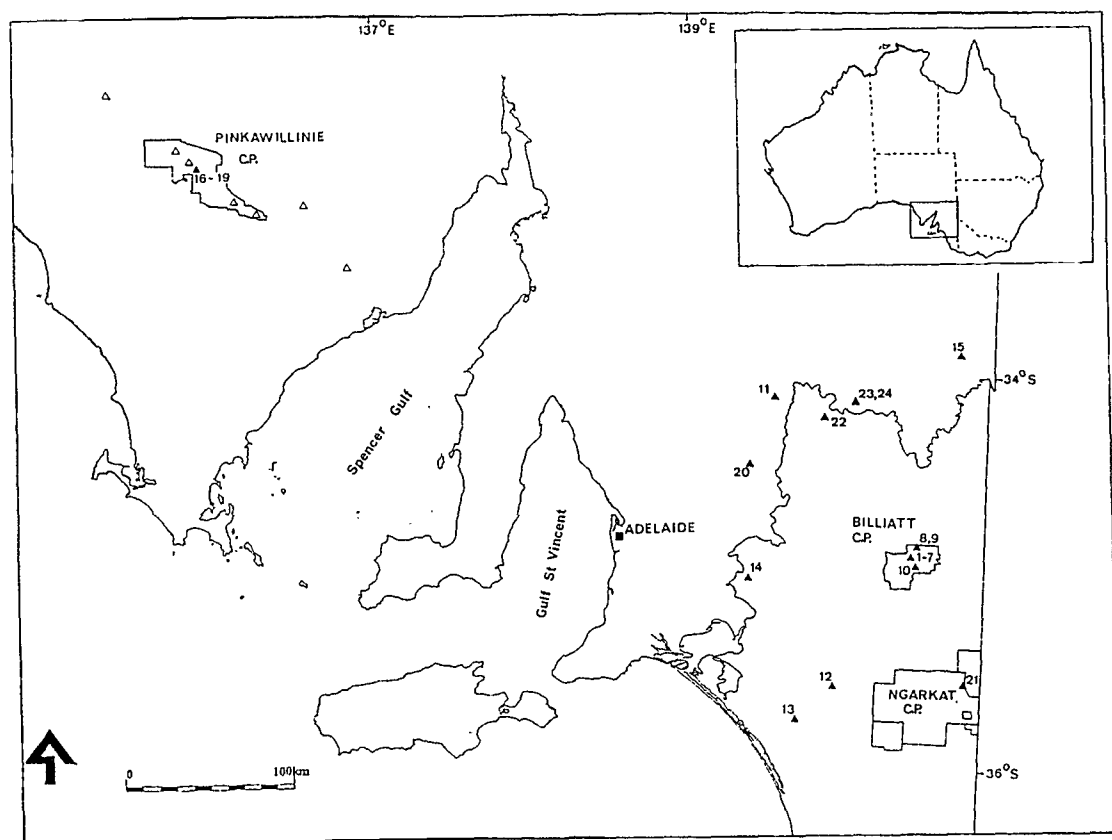


Figure 1. Map showing (▲) localities of records of Red-Lored Whistlers in Table 1 and (△) localities with habitat suitable for Red-lored Whistlers where searches were unsuccessful.

DISCUSSION

We have encountered the Red-lored Whistler in small numbers at a number of sites in South Australia. Matthew *et al.* (1995) extended the distribution to Eyre Peninsula where the species is apparently very rare. The plant species composition, vegetative cover and post-fire age of the habitat on Eyre Peninsula were similar to habitat used by the birds in the Murray Mallee (Woinarski 1987). This is typically *Eucalyptus incrassata*-*E. leptophylla* open scrub on parabolic dunes and birds do not appear to colonise areas until at least five years after a fire (unpubl. data). We have no estimate of the population size on Eyre Peninsula, although vegetation suitable for Red-lored Whistlers occurs on parabolic dunes in a region from Pinkawillinie Conservation Park to Sheoak Hill Conservation Park (33°22'S, 136°45'E) near Cowell and in the south-western Gawler Ranges.

Our data indicate that the whistlers are sedentary at a locality on northern Eyre Peninsula. These birds may represent a recent founder population from the Murray Mallee. The establishment of a colony on Eyre Peninsula would have required at least one pair to have moved over 300 km of atypical habitat. Single birds have been recorded in atypical habitat on the Adelaide Plains (Parker 1984), near Sandleton, 85 km NE of Adelaide (Glover 1976) and near Mt Mary, 120 km NE of Adelaide (this article). These records indicate that the species will utilise habitats other than dunal mallee and this may allow birds to move considerable distances.

Alternatively, Red-lored Whistlers may have become established on Eyre Peninsula when suitable mallee habitats were continuous across southern South Australia. Parsons (1969) suggested that *Eucalyptus incrassata* was continuously distributed from the Murray Mallee to Eyre Peninsula at the height of the last glacial period about 18 000 years BP. At this time Red-lored Whistlers may have had a more extensive distribution than at present. As the sea rose to the current level, approximately 6000 years BP (Thom & Chappell 1975), the distribution of the whistlers would have become discontinuous due to the inundation of the St Vincent and Spencer Gulfs.

If the Red-lored Whistler has been present on Eyre Peninsula for a long period of time (and has been isolated from the Murray Mallee population) it is possible that the two populations are genetically distinct. The adult male captured in 1995 on Eyre

Peninsula was identical in appearance to SA Museum specimens of Red-lored Whistlers from the Murray Mallee. Woinarski (1987) gives the average culmen length of captured Red-lored Whistlers as 18.2 mm and our measurements of culmen length from SA Museum specimens (both sexes) average 14.7 mm with a range of 1.8 mm. The Eyre Peninsula birds' culmen length lay within the range of museum specimens but was shorter than live birds measured by Woinarski. The tarsus length of birds measured by Woinarski averaged 24.6 mm, and this was the same for our measurements of SA Museum specimens with a range of 3.1 mm. The bird captured on Eyre Peninsula had a considerably longer tarsus than Murray Mallee birds. Molecular genetic analysis would need to be conducted to ascertain differences, if any, between populations of this species.

There have been few detailed surveys of the mallee birds of central and northern Eyre Peninsula. The Red-lored Whistler may occur at other localities in the region and could have been overlooked by previous ornithologists. As there is suitable habitat in the vicinity of Sheoak Hill Conservation Park, searches there may prove successful. Wildfires and vegetation clearance pose threats to the whistlers on Eyre Peninsula. There are several thousand hectares of habitat suitable for the



Figure 2. Adult Red-lored Whistler captured in Pinkawillinie Conservation Park (photographer J. Matthew).

whistlers in Pinkawillinie Conservation Park. This comprises a mosaic of age classes of vegetation, some burnt as recently as 1984.

Although large scale clearance of vegetation is prohibited by current state legislation, clearance of mallee still occurs. For example, a 50 m wide fire break was recently made along the access track less than 5 km S of the location of our sightings of Red-lore Whistlers in Pinkawillinie Conservation Park.

ACKNOWLEDGMENTS

We wish to thank Richard Allen, John Cox, Rob Kernot and Sonya Croft for providing details of their observations. The SAOA provided funding for the field work on Eyre Peninsula in 1994/95. Thanks also to Josie Langrehr for drafting Figure 1. This work was conducted whilst one author (JM) held a mist netting permit.

REFERENCES

- Blakers, M., Davies, S.J.J.F. and Reilly, P.N. 1984. *The atlas of Australian birds*. RAOU and Melbourne University Press, Melbourne.
- Carpenter, G. and Matthew, J. 1986. The birds of Billiatt Conservation Park. *S. Aust. Ornithologist*, 30, 29-37.
- Close, D.H. 1982. The birds of the Ninety-Mile Desert. In *The Ninety-Mile Desert of South Australia*. C.R. Harris, A.E. Reeves and D.E. Symon (eds). Nature Conservation Society of South Australia, Adelaide, pp. 81-86.
- Eckert, J. 1972. Extension of the range of the Red-lore Whistler *Pachycephala rufogularis* and comments on some birds of the north-east of South Australia. *South Australian Ornithologist*, 26, 38-39.
- Glover, B. 1976. The Red-lore Whistler near Sandleton. *South Australian Ornithologist*, 27, 112.
- Hatch, J.H. 1977. The birds of Comet Bore (Ninety-Mile Plain). *South Australian Ornithologist*, 27, 163-172.
- Matthew, J., Croft, T. and Carpenter, G. 1995. A record of the Red-lore Whistler on Eyre Peninsula. *South Australian Ornithologist*, 32, 39-40.
- Parker, S.A. 1984. Remarks on some results of John Gould's visit to South Australia in 1839. *South Australian Ornithologist*, 29, 109-111.
- Parsons, R.F. 1969. Distribution and paleogeography of two mallee species of *Eucalyptus* in southern Australia. *Australian Journal of Botany*, 17, 323-330.
- Pedler, L. 1982. Red-lore Whistler on Calperum Station, northern Murray Mallee. *S. Aust. Ornithologist*, 29, 26.
- Rix, C.E. 1940. *Pachycephala rufogularis* (Gould) Red-lore Whistler. Extension in distribution. *South Australian Ornithologist*, 15, 96-98.
- Schodde, R. 1965. Observations on new distribution and habitat of five Australian land birds. *Emu*, 64, 204-208.
- Thom, B.G. and Chappell, J. 1975. Holocene sealevels relative to Australia. *Search*, 6, 90-93.
- Woinarski, J.C.Z. 1987. Notes on the status and ecology of the Red-lore Whistler *Pachycephala rufogularis*. *Emu*, 87, 224-231.
- Jamie Matthew: South Australian Museum, North Terrace, Adelaide, S.A. 5000*
- Graham Carpenter: 3 Lindsay Tce, Belair, S.A. 5052*
- Tim Croft: 10 Eringa Ave, Glenunga, S.A. 5064*

Received: 1 May 1996

CORRIGENDUM

A recent paper titled 'A revision of the distribution of the Red-lored Whistler in South Australia' by Matthew *et al.* (*S. Aust. Orn.* 32: 103-107) contained an oversight by the authors. In the Introduction (p. 103, para. 2) it was stated that the Red-lored Whistler *Pachycephala rufogularis* had not been recorded in the vicinity of Ferries-McDonald Conservation Park since the sightings documented by Rix (1940). 'A second bird atlas of the Adelaide Region. Part 11. Distribution maps.' (*S. Aust. Orn.* 31, 8, p. 261), however, documents a sighting of the species by G. and A. Cam at Ferries-McDonald Conservation Park on 3 March 1984. On the same page of the atlas is an additional sighting of the species by J. Cox at Twelve Mile Plain, near Sedan, (34°27'S, 139°27'E) on 24 July 1985. We are indebted to Colin Rich for drawing this to our attention.

-- Eds